

ORM Application Assessment For Assessors

A large F-16 fighter jet is shown in flight, banking sharply to the left. The aircraft is grey and has its wings and tail fins clearly visible. Below the aircraft, on a runway or tarmac, several people are standing and watching the fly-by. The background is a clear, light blue sky.

ORM Assessment & Feedback
Naval Safety Center

This is an actual fly-by during deployment of the Nuclear Aircraft Carrier USS Stennis. The pilot was grounded for 30 days, but he likes the picture and thinks it was worth it. Yikes!



Overview

- ORM Assessment
 - Red vs. Blue Threat
 - Background
- ORM Assessor Training
 - Terminal & enabling objectives
 - ORM Process & Terminology
 - ORM Application Assessment
- Initial Findings, Data & Feedback
- Summary



Reaching the War Fighter



The Blue **~~Threat~~**

**Puts the concepts
in to terms the War
Fighter
understands**

**Threat Losses (FY Jan '91-
08)**

Red Threat - 18 Aircraft
Destroyed

VS.

Hazards = Threats

ORM = Tactics

CRM = Skills

Blue Threat - 531 Aircraft

Naval Safety Center - ORM Assessment & Feedback

1-1-3

How Did Our Sailors and Marines Die?

	187 Died in FY07	178 Died in FY08	121 Died in FY09
PMV	110	118	70
Off-Duty Recreation	(59%)	(66%)	(58%)
Aviation	27	32	24
Shore / Ground / MV	(11%)	(18%)	(20%)
PT	23	6 (3%)	9 (7%)
Surface	(12%)	15	10 (8%)
Ships/Sub/Diving	21	(8%)	4 (3%)
	(11%)	5 (3%)	4 (3%)
	(11%)		





The Blue Threat

- Are we learning from our costly mistakes?
 - Aircraft Movement:
 - 2000: Tow tractor hit parked acft. **Fatal** injury.
 - 2003: During acft towing, person **fatally** crushed between store & dolly
 - 2004: Sqdn acft under tow direction of yellow shirt ran over ship's blue shirt. Permanent **disability**
 - 2005: Wing walker's leg run over by acft during move - permanent **disability**
 - 2006: Acft ran over airman's right leg during taxi on flight deck - permanent **disability**
 - 2007: While towing acft airman caught and dragged under right wheel and suffered skin and muscle damage
 - 2007: Wing walker injured while acft being towed.
- Lack of supervision – guidance – enforcement
- Perceived “Low Risk” evolution

Bottom line

Action / Inaction by **own forces**
causing losses far exceeding
those caused by **Red Threat**



Degradation in mission readiness
Impact to mission accomplishment



ORM Assessment Background

- ORM as a tactic vs. **Blue** Threat
 - Not just a “safety” tool... impacts operational readiness (new definition)
 - Can be used for mitigating **Red** Threats, **White** Threats, **Environmental** Hazards, and **Mission** Threats
- VCNO: NSC ORM Model Manager & tasked to revitalize
 - Devise and implement ORM strategy to infuse into Navy culture
- VCNO & CFFC specifically tasked ORM Assessment process be developed to:
 - Measure ORM application & program compliance
 - Inculcate desired risk management practices & behaviors in Fleet
- **ORM Assessment**
 - Two types: ORM Program and **ORM Application**

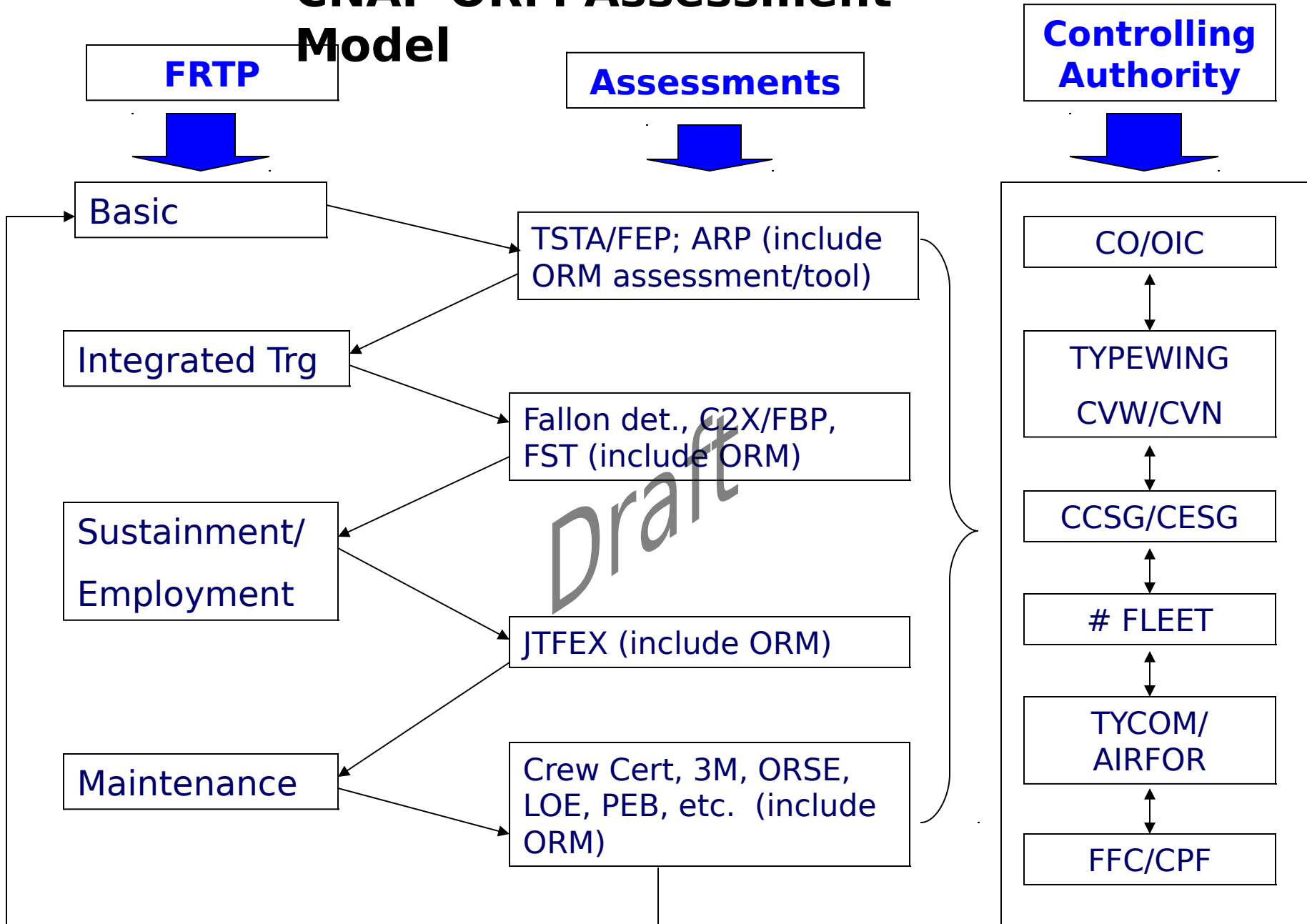


Why/What/Who/How/When?

- Feasibility trials of ORM assessment tools began in Feb '07
 - VADM Williams (FFC DECOM) directed done FFC-wide in Mar '07
 - CFFC/CPF joint message talked about operational units/groups in Mar '07
 - CFFC directed TYCOMs to devise assessment plans in Apr '07
- Two general types of ORM assessments:
 - ORM Program Assessment (internal or external): compliance-based for all units/activities
 - ORM Application Assessment (external for now): application-based for operational units/groups
- Short-term: NSC partnering w/ assessment commands for ORM Application Assessments during selected FRTP events:

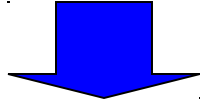
- Observe, assess, and debrief ORM Application Assessment during

CNAF ORM Assessment Model

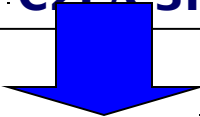


CNAF ORM Assessment Model

Assessors



**ATG, TTG, SFTG, NSAWC, Weapons Schools,
C2E/C3F**



BASIC

TSTA/FEP, ARP
(include ORM
assessment/tool)

INTEGRATED

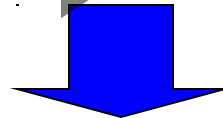
Fallon det.,
C2X/FBP, FST
(include ORM)

SUSTAINMENT

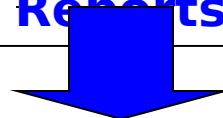
ITFEX
(include ORM)

MAINTENANCE

Crew Cert, 3M,
ORSE, LOE, PEB, etc.
(include ORM)

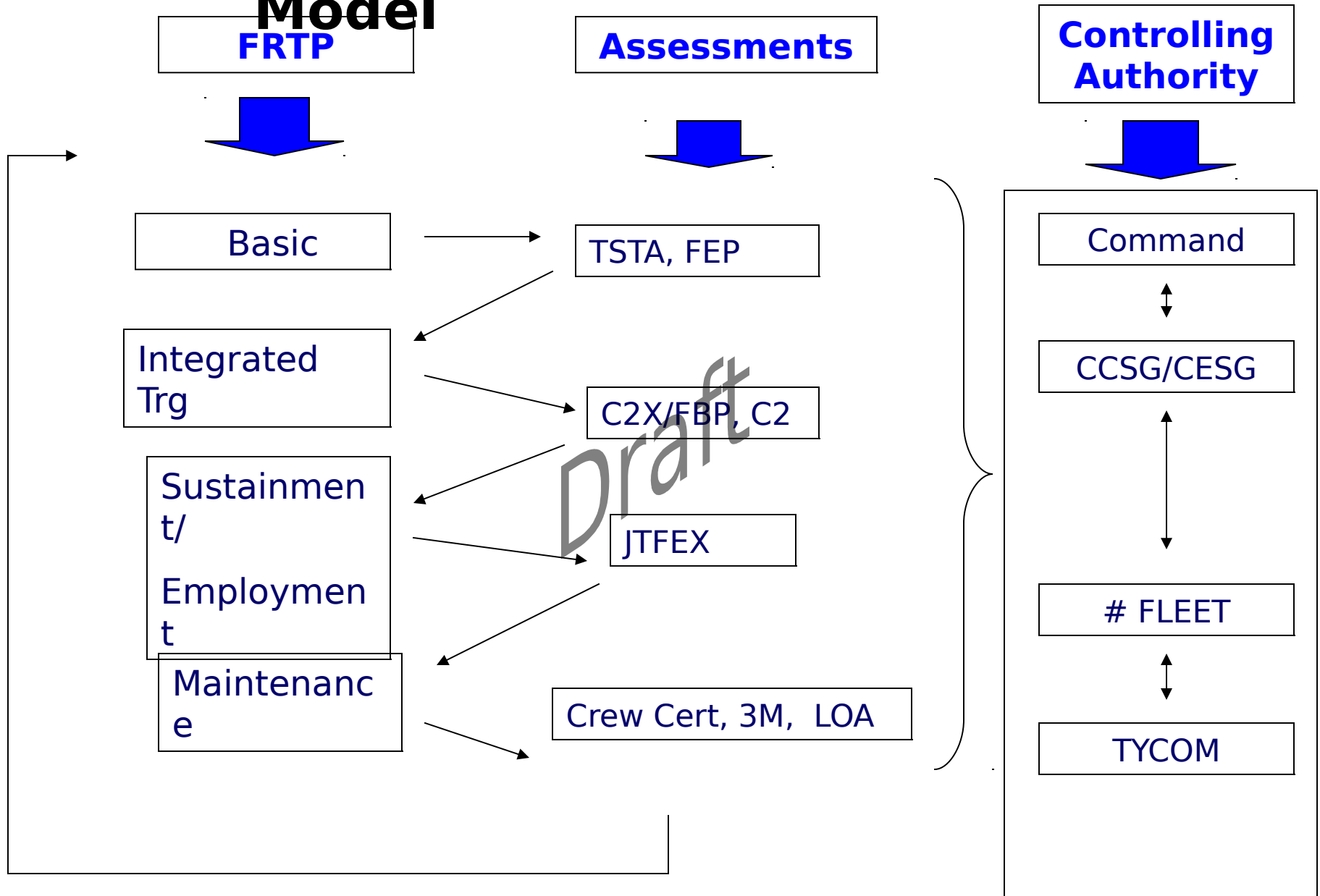


**ORM Assessment
Reports**



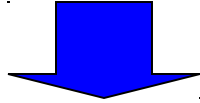
Controlling Authority

CNSF ORM Assessment Model

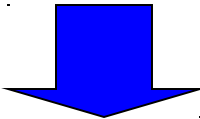


CNSF ORM Assessment Model

Assessors



ATG, SFTG, ISIC Staff, C2F/C3F



BASIC
TSTA, FEP

INTEGRATED
C2X/FBP, C2

SUSTAINMENT
JTFEX

MAINTENANCE
Crew Cert, 3M,
LOA, MCA

**ORM Assessment
Reports**

Controlling Authority



ORM Assessor Training

Objectives

- Terminal objective:
 1. Be able to recognize ORM processes during the various phases of an evolution
 2. Understand how to fill out an Evolution ORM Assessment Sheet for a complex evolution
- Enabling objectives:
 1. Explain what ORM is and is not
 2. Be familiar with the three levels, four principles and five steps of ORM
 3. Know the four steps of Time Critical ORM
 4. Define the terms ORM, hazard, and risk
 5. Explain the difference between a



Training Objectives

(contd.)

6. Explain the difference between a hazard symptom and a hazard root cause
7. Understand the concept of residual risk
8. Understand the concept of assigning risk control supervision responsibilities
9. Know the five phases of an evolution
10. Understand the various ORM terms
11. Be familiar with the two types of ORM assessments
12. Understand the overall ORM Application Assessment process
13. Understand how to assign scores to both single and multiple measure ORM



What ORM “IS NOT”

- About avoiding risk
- A safety only program
- Limited to complex-high risk evolutions
- Just another program -- but a process
- Only for on-duty
- Just for your boss
- Just a planning tool
- Automatic
- Static
- Difficult
- Someone else's job
- A well kept secret
- A fail-safe process
- A bunch of checklists
- Just a bullet in a briefing guide
- “TQL”
- Going away
- An excuse to violate policies, directives, or procedures



What ORM "IS"

- A mindset and/or methodology applicable to any activity
- Accomplishing the mission with acceptable risk
- Planning using a standard process (5 Steps)
- A continuous process
- Based on experience/collective experience
- Following procedures (controls)
- Watching for change (supervising)
- Flexible
- Working as a team
- Best when applied as a team
- Asking "What's Different"
- Skill and knowledge dependent
- Sharing experience, lessons learned
- Using available tools/resources
- Applied, standardized "common sense"
- "Looking before you leap"
- As in-depth as you have time for



Operational & Off-Duty Risk Management (ORM)

- Three Levels of ORM
 1. In-depth
 2. Deliberate
 3. Time Critical
- Four principles of ORM
 1. Anticipate and manage risk by planning
 2. Make risk decisions at the appropriate level
 3. Accept risk when benefits outweigh costs
 4. Accept no unnecessary risks

- Five steps of ORM Four steps of Time

Critical ORM →

1. Identify hazards
hazards/risks →
2. Assess hazards
control risks →
3. Make risk decisions

1. **A**ssess situation for
2. **B**alance resources to
3. **C**ommunicate risks and



ORM Basics

- “**ORM**” is a systematic approach to managing risks to **increase mission success** with minimal losses. This involves identifying and assessing hazards for risk, controlling risks, supervising and revising as needed.
- “**Hazard/Threat**” – A condition with the potential to cause personal injury or death, property damage, **or mission degradation**
- “**Risk**” – An expression of possible loss in terms of **severity** and **probability**



ORM Process Levels

- **“In-depth”** ORM – formal application of all five steps but with a **very thorough hazard identification and risk assessment** through research, testing, simulation, statistics, etc.
- **“Deliberate”** ORM – formal application of the complete five-step process where **hazards, risks, controls, and supervision are documented**
- **“Time Critical”** ORM – application of the principles and functional processes **during execution where time precludes a formal approach**



ORM Principles

1. **“Anticipate and manage risk by planning”** – risks are **more easily controlled when identified early in planning**
2. **“Make risk decisions at the right level”** – risk management decisions should be made by the leader directly responsible for the operation. **If the hazard’s risk cannot be controlled at his level, leaders shall elevate the risk decision to their chain of command.**
3. **“Accept risk when benefits outweigh the costs”** – the goal is not to eliminate risk, which is inherent in what we do, but to manage it so that we can accomplish the mission with minimal losses. **Leaders must consider benefits and costs associated with a hazard’s risks to make informed decisions.**



Identify Hazards

Operational Analysis

Determine specified & implied tasks

Break down into small steps

List Hazards

Spend 30-40% of total ORM time

List hazards for each step

Use “what if” tool

Focus on “what’s different” today

Determine Hazard Root Causes

Target root causes vice symptoms

Keep asking why until answered

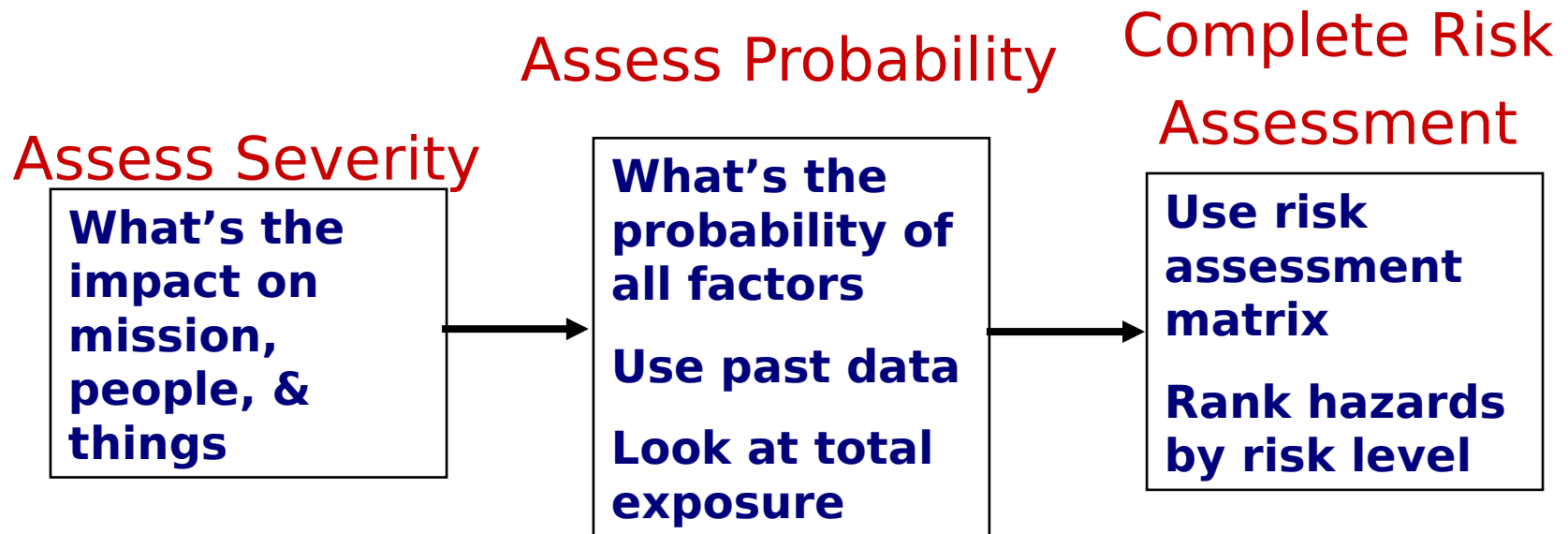


ORM Terms So Far

- **Specified task** – A task that has been definitively directed by a superior (e.g., **get underway on this date**).
- **Implied task** – A task that indirectly accompanies one or more specified tasks but are not definitively directed (e.g., **get underway with no personnel casualties, no damage to the vessel, and minimal environmental impact**).
- **Hazard root cause** – The specific causal factor behind a hazard (e.g., **inadequate rest, hydration or food intake; insufficient rudder input or authority to counter suction forces; or personnel intentionally violating procedures**).



Assess Hazards





Severity Categories

CATEGORY I - The hazard may cause death, loss of facility/asset, or mission failure.

CATEGORY II - The hazard may cause severe injury, illness, property damage, or serious mission degradation.

CATEGORY III - The hazard may cause minor injury, illness, property damage, or minor mission degradation.

CATEGORY IV - The hazard presents a minimal threat to personnel safety or health, property, or mission.



Probability Categories

SUB-CATEGORY A - Likely to occur immediately or within a short period of time. Expected to occur frequently to an individual item or person or continuously to a fleet, inventory or group.

SUB-CATEGORY B - Probably will occur in time. Expected to occur several times to an individual item or person or frequently to a fleet, inventory or group.

SUB-CATEGORY C - May occur in time. Can reasonably be expected to occur some time to an individual item or person or several times to a fleet, inventory or group.

SUB-CATEGORY D - Unlikely to occur.



Risk Assessment Matrix

Risk
Assessment
Code

1 = Critical
2 = Serious
3 = Moderate
4 = Minor
5 = Negligible

		Probability of Occurrence			
		Likely	Probably	May	Unlikely
		A	B	C	D
S E V E R I T Y	Cat I	1	1	2	3
	Cat II	1	2	3	4
	Cat III	2	3	4	5
	Cat IV	3	4	5	5
		Risk Levels			



Make Risk Decisions

Identify Control

Options,
Instructions,
SOPs, Policy,
LOIs, ROE,
PPE, tactics,
plans, design,
briefs,
participants,
training,
routes,
timing,
checklists,
etc.

Determine Control Effects

What's the
impact on
probability &
severity

What's the
risk control
cost

How do they
work
together

Make Risk Decisions

Determine
residual risk

Make risk
decisions at
right level

Ensure
benefits
outweigh
costs



Implement Controls

**Make
Implementation
Clear**

**Use
examples,
pictures, or
charts**

**Describe
expectations
clearly**



**Establish
Accountability**

**Assign
individuals clear
risk control
responsibilities**



**Provide
Support**

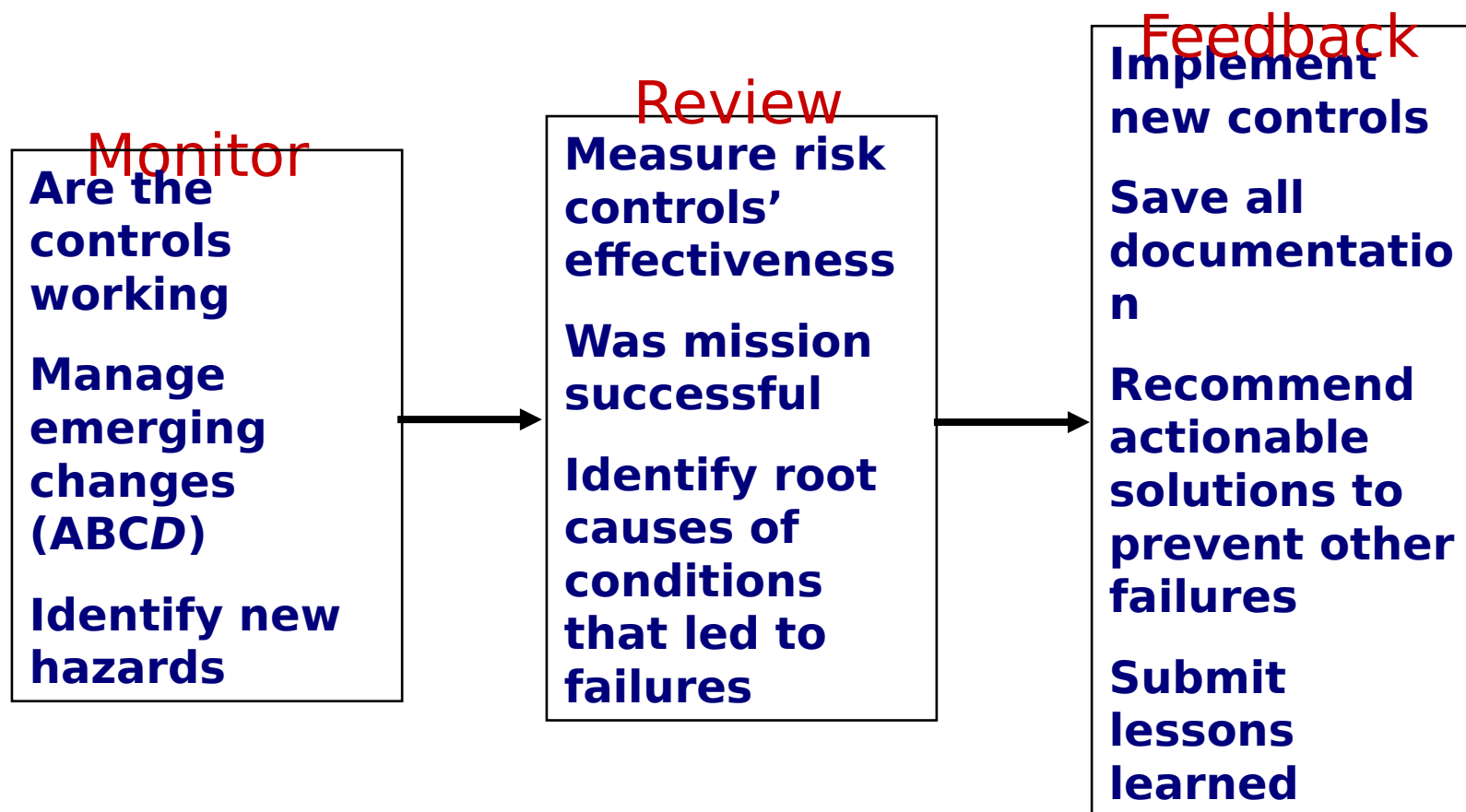
**Command
provide
personnel &
resources**

**Make it
sustainable**

**Consider
control
conflicts**



Supervise





Steps of Time Critical ORM

1. **A**ssess your situation for hazards/risks
2. **B**alance your resources to control risks
3. **C**ommunicate your risks & intentions
4. **D**o & Debrief (enact & monitor)



ORM Terminology

- **Actionable solution** – A solution that if enacted **would likely prevent a particular failure from recurring**.
- **Complex evolution** – One requiring the coordination of **four or more functional entities** either within or outside the unit/group.
- **Functional area/entity** – A group or organization either internal or external to a unit or group that **serves one or more specific functions necessary to complete** evolution mission (e.g., **ship depts., other ships/squadrons, etc.**).
- **Documented risk assessment** – **A**

Sample Risk Assessment

Hazard/Threat	Assess	RAC	Control	Re-assess	Residual	Supervision
Grounding/Flooding/Navigation error			use multiple independent sources, report 2-min. fixes w/confidence, source & discrepancies; OOD/DCA: ensure MOD Z set	D, II	4	CHENG: monitor from Control; CO/XO: monitor from bridge; GATOR: report & resolve discrepancies, provide recommendations to OOD
Collision			of the Road, use Furuno/ARPA, decrease speed in shipping lanes; OPS: pass shipping info., CIC pass contacts	D, II	4	CO/XO: monitor from bridge; OOD/CONN: resolve potential conflicts early & contact via radio; CICWO: backup OOD
Man-overboard/Line-handling injury			handling PPE, use safety observers; OOD: follow procedures; AIR: use ATFP helo for SAR, minimize crew on deck	C, II	3	ALL: report anything in water, wear PPE if topside; 1st LT: ensure proper PPE; LOOKOUTS: continually scan
Tide/current/waves			OPS: update wx briefings; NAV: plan during favorable conditions; AIR: restrict access to flight deck during high seas	A, IV	3	GATOR: determine impact if delayed; METOC: update emerging weather conditions
Fog/Reduced visibility/Inclement weather			OPS: update visibility; OOD: post restricted visibility detail, use bell & horn, slow	B, IV	4	METOC: report when below 3 NM visibility; OOD: backup METOC if visibility
BRM breakdown			Bridge: use repeat-backs for orders, report "orders to the _"; OOD: utilize J OOD & CONN to max. extent; CO/XO: C, III		4	OOD: monitor bridge watch team and correct as necessary; CO/XO: monitor bridge team
Engineering casualty			procedures, know where nearest emergency anchorage is; ENG: follow procedures & inform bridge	B, II	2	EOOW: take appropriate actions to make the plant safe & provide max. avail. revolutions to bridge
Terrorist attack			WEPS: man 50-cals.; AIR: direct ATFP/SAR helo	D, III	5	GUN BOSS: monitor & quiz ATFP watches on PPRs
Inattention/complacency			departure, limit watch duration; ALL: ensure	B, III	3	watchstanders & supervisors relieve if needed

 = Critical Risk
  = Serious Risk
  = Moderate Risk
  = Minor Risk
  = Negligible Risk

Sample Risk Assessment

Hazard/Threat	Assess	RAC	Control	Re-assess	Residual	Supervision
Grounding/Flooding/Navigation error	C, II	3	use multiple independent sources, report 2-min. fixes w/confidence, source & discrepancies; OOD/DCA: ensure MOD Z set	D, II	4	CHENG: monitor from Control; CO/XO: monitor from bridge; GATOR: report & resolve discrepancies, provide recommendations to OOD
Collision	C, I	2	of the Road, use Furuno/ARPA, decrease speed in shipping lanes; OPS: pass shipping info., CIC pass contacts	D, II	4	CO/XO: monitor from bridge; OOD/CONN: resolve potential conflicts early & contact via radio; CICWO: backup OOD
Man-overboard/Line-handling injury	B, I	1	handling PPE, use safety observers; OOD: follow procedures; AIR: use ATFP helo for SAR, minimize crew on deck	C, II	3	ALL: report anything in water, wear PPE if topside; 1st LT: ensure proper PPE; LOOKOUTS: continually scan
Tide/current/waves	A, III	2	OPS: update wx briefings; NAV: plan during favorable conditions; AIR: restrict access to flight deck during high seas	A, IV	3	GATOR: determine impact if delayed; METOC: update emerging weather conditions
Fog/Reduced visibility/Inclement weather	B, II	2	OPS: update visibility; OOD: post restricted visibility detail, use bell & horn, slow	B, IV	4	METOC: report when below 3 NM visibility; OOD: backup METOC if visibility
BRM breakdown	B, II	2	Bridge: use repeat-backs for orders, report "orders to the _"; OOD: utilize J OOD & CONN to max. extent; CO/XO: C, III	C, III	4	OOD: monitor bridge watch team and correct as necessary; CO/XO: monitor bridge team
Engineering casualty	B, I	1	procedures, know where nearest emergency anchorage is; ENG: follow procedures & inform bridge	B, II	2	EOOW: take appropriate actions to make the plant safe & provide max. avail. revolutions to bridge
Terrorist attack	D, I	3	WEPS: man 50-cals.; AIR: direct ATFP/SAR helo	D, III	5	GUN BOSS: monitor & quiz ATFP watches on PPRs
Inattention/complacency	A, III	2	departure, limit watch duration; ALL: ensure	B, III	3	watchstanders & supervisors relieve if needed

= Critical Risk
 = Serious Risk
 = Moderate Risk
 = Minor Risk
 = Negligible Risk

Sample Risk Assessment

Hazard/Threat	Assess	RAC	Control	Re-assess	Residual	Supervision
Grounding/Flooding/ Navigation error	C, II	3	ENG: follow RMD bill; NAV: use multiple independent sources, report 2-min. fixes w/confidence, source & discrepancies; OOD/DCA: ensure MOD Z set	D, II	4	CHENG: monitor from Control; CO/XO: monitor from bridge; GATOR: report & resolve discrepancies, provide recommendations to OOD
Collision	C, I	2	OOD/CONN: adhere to Rules of the Road, use Furuno/ARPA, decrease speed in shipping lanes; OPS: pass shipping info., CIC pass contacts	D, II	4	CO/XO: monitor from bridge; OOD/CONN: resolve potential conflicts early & contact via radio; CICWO: backup OOD
Man-overboard/Line-handling injury	B, I	1	DECK: RHIB manned, line-handling PPE, use safety observers; OOD: follow procedures; AIR: use ATPF helo for SAR, minimize crew on deck	C, II	3	ALL: report anything in water, wear PPE if topside; 1st LT: ensure proper PPE; LOOKOUTS: continually scan
Tide/current/waves	A, III	2	OPS: update wx briefings; NAV: plan during favorable conditions; AIR: restrict access to flight deck during high seas	A, IV	3	GATOR: determine impact if delayed; METOC: update emerging weather conditions
Fog/Reduced visibility/Inclement weather	B, II	2	OPS: update visibility; OOD: post restricted visibility detail, use bell & horn, slow as needed	B, IV	4	METOC: report when below 3 NM visibility; OOD: backup METOC if visibility
BRM breakdown	B, II	2	Bridge: use repeat-backs for orders, report "orders to the _"; OOD: utilize J OOD & CONN to max. extent; CO/XO: backup	C, III	4	OOD: monitor bridge watch team and correct as necessary; CO/XO: monitor bridge team
Engineering casualty	B, I	1	OOD/CONN: follow procedures, know where nearest emergency anchorage is; ENG: follow procedures & inform bridge	B, II	2	EOOW: take appropriate actions to make the plant safe & provide max. avail. revolutions to bridge
Terrorist attack	D, I	3	WEPS: man 50-cals.; AIR: direct ATPF/SAR helo	D, III	5	GUN BOSS: monitor & quiz ATPF watches on PPRs
Inattention/complacency	A, III	2	CO: limit watch duration; ALL: ensure rested & nourished	B, III	3	watchstanders & supervisors relieve if needed

= Critical Risk
 = Serious Risk
 = Moderate Risk
 = Minor Risk
 = Negligible Risk

Sample Risk Assessment

Hazard/Threat	Assess	RAC	Control	Re-assess	Residual	Supervision
Grounding/Flooding/Navigation error	C, II	3	ENG: follow RMD bill; NAV: use multiple independent sources, report 2-min. fixes w/confidence, source & discrepancies; OOD/DCA: ensure MOD Z set	D, II	4	CHENG: monitor from Control; CO/XO: monitor from bridge; OPS: monitor from bridge; OOD/DCA: resolve discrepancies, provide recommendations to OOD
Collision	C, I	2	OOD/CONN: adhere to Rules of the Road, use Furuno/ARPA, decrease speed in shipping lanes; OPS: pass shipping info., CIC pass contacts	D, I	3	CO/XO: monitor from bridge; OOD/CONN: resolve potential conflicts early & contact via radio; CICWO: backup OOD
Man-overboard/Line-handling injury	B, I	1	DECK: RHIB manned, line-handling PPE, use safety observers; OOD: follow procedures; AIR: use ATPF helo for SAR, minimize crew on deck	C, II	3	ALL: report anything in water, wear PPE if topside; 1st LT: ensure proper PPE; LOOKOUTS: continually scan
Tide/current/waves	A, III	2	OPS: update wx briefings; NAV: plan during favorable conditions; AIR: restrict access to flight deck during high seas	A, IV	3	GATOR: determine impact if delayed; METOC: update emerging weather conditions
Fog/Reduced visibility/Inclement weather	B, II	2	OPS: update visibility; OOD: post restricted visibility detail, use bell & horn, slow as needed	B, IV	4	METOC: report when below 3 NM visibility; OOD: backup METOC if visibility
BRM breakdown	B, II	2	Bridge: use repeat-backs for orders, report "orders to the _"; OOD: utilize J OOD & CONN to max. extent; CO/XO: backup	C, III	4	OOD: monitor bridge watch team and correct as necessary; CO/XO: monitor bridge team
Engineering casualty	B, I	1	OOD/CONN: follow procedures, know where nearest emergency anchorage is; ENG: follow procedures & inform bridge	B, II	2	POOW: take appropriate actions to make the plant safe & provide max. avail. revolutions to bridge
Terrorist attack	D, I	3	WEPS: man 50-cals.; AIR: direct ATPF/SAR helo	D, III	5	SUN BOSS: monitor & quiz ATPF watches on PPRs
Inattention/complacency	A, III	2	CO: limit watch duration; ALL: ensure rested & nourished	B, III	3	watchstanders & supervisors relieve if needed

Residual Risk

= Critical Risk
 = Serious Risk
 = Moderate Risk
 = Minor Risk
 = Negligible Risk

Sample Risk Assessment

Hazard/Threat	Assess	RAC	Control	Re-assess	Residual	Supervision
Grounding/Flooding/ Navigation error	C, II	3	ENG: follow RMD bill; NAV: use multiple independent sources, report 2-min. fixes w/confidence, source & discrepancies; OOD/DCA: ensure MOD Z set	D, II	4	CHENG: monitor from Control; CO/XO: monitor from bridge; GATOR: report & resolve discrepancies, provide recommendations to OOD
Collision	C, I	2	OOD/CONN: adhere to Rules of the Road, use Furuno/ARPA, decrease speed in shipping lanes; OPS: pass shipping info., CIC pass contacts	D, II	3	CO/XO: monitor from bridge; OOD/CONN: resolve potential conflicts early & contact via radio; CICWO: backup OOD
Man-overboard/Line-handling injury	B, I	1	DECK: RHIB manned, line-handling PPE, use safety observers; OOD: follow procedures; AIR: use ATPF helo for SAR, minimize crew on deck	C, II	3	ALL: report anything in water, wear PPE if topside; 1st LT: ensure proper PPE; LOOKOUTS: continually scan
Tide/current/waves	A, III	2	OPS: update wx briefings; NAV: plan during favorable conditions; AIR: restrict access to flight deck during high seas	A, IV	3	GATOR: determine impact if delayed; METOC: update emerging weather conditions
Fog/Reduced visibility/Inclement weather	B, II	2	OPS: update visibility; OOD: post restricted visibility detail, use bell & horn, slow as needed	B, IV	4	METOC: report when below 3 NM visibility; OOD: backup METOC if visibility questionable
BRM breakdown	B, II	2	Bridge: use repeat-backs for orders, report "orders to the _"; OOD: utilize J OOD & CONN to max. extent; CO/XO: backup	C, III	4	OOD: monitor bridge watch team and correct as necessary; CO/XO: monitor bridge team
Engineering casualty	B, I	1	OOD/CONN: follow procedures, know where nearest emergency anchorage is; ENG: follow procedures & inform bridge	B, II	2	CHENG: monitor from Control; EOOW: take appropriate actions to make the plant safe & provide max. avail. revolutions to bridge
Terrorist attack	D, I	3	WEPS: man 50-cals.; AIR: direct ATPF/SAR helo	D, III	5	GUN BOSS: monitor & quiz ATPF watches on PPRs
Inattention/complacency	A, III	2	CO: limit watch duration; ALL: ensure rested & nourished	B, III	3	Supervisors: monitor watches & relieve if needed

= Critical Risk
 = Serious Risk
 = Moderate Risk
 = Minor Risk
 = Negligible Risk



ORM Terminology

(contd.)

- **Operational analysis** - A process to determine the specified and implied tasks of an evolution as well as the specific actions needed to complete the evolution. Ideally, the evolution should be broken down into distinct steps based on either time sequence or functional area.
- **Relevant external units/groups** - Those units/groups who would likely benefit from evolution feedback.
- **Residual risk** - An expression of loss in terms of probability and severity after control measures are applied (i.e., the hazard's post-control expression of risk).

Resource - A type of non-PPE control that



ORM Application Assessments

Evaluates operational planning, briefing, execution, debriefing, and lessons learned/best practices

- Only provides a snapshot of ORM use during evolutions observed
- Best results when gathered from various functional areas (e.g., **warfare areas**, departments, etc.) and different types of evolutions
- **Will be integrated into existing fleet assessment command evaluations in future**
- Until fully integrated, NSC will try to provide ORM Assessment Team Leads for all ESG and CSG component assessments
- **Once integrated, assessment command OICs or other reps. will lead ORM Application Assessments**

ORM Application Assessment Team

- **ORM Assessors – trained evaluators from various**



ORM Application Assessment Team

ORM Assessors – You

- Identify complex evolutions to assess beforehand and coordinate to observe the planning process (if able)
- Observe and assesses ORM process application using the Evolution ORM Assessment Sheet
- Stop unsafe acts during evolutions and provide feedback to the participants/planners
- Give graded sheets to ORM Team Leader

ORM Team Leader – Safety Center or Assessor OIC/rep.

- Coordinates ORM Application Assessment w/ unit/group
- Collects Evolution ORM Assessment Sheets from Assessors



Five Phases of an Evolution

1. Planning

2. Briefing

3. Execution

4. Debriefing

5. Lessons Learned/Best Practices

Evolution ORM Assessment Sheet

Unit/Group: _____ Assessor: _____
Evolution: _____ Date/Time: _____

	Planning	Max.	Pts.	Comments
1	Identified and incorporated lessons learned, best practices, ORM risk assessments or other data from previous or similar evolutions during planning.	10		
2	Involved operators from every functional area necessary to conduct the evolution in planning.	10		
3	Conducted and documented a Deliberate or In-Depth ORM risk assessment during planning.	10		
4	Conducted an operational analysis, identified hazard root causes and assessed for risk, devised controls, and prioritized resources based on residual risk.	25		
5	Weighted risks for benefits vs. costs, made risk decisions at the appropriate level, and accepted no unnecessary risks.	15		
Briefing				
6	Participants from every functional area necessary to conduct the evolution attended the brief.	10		
7	Briefed the specified and implied tasks of the evolution effectively.	5		
8	Briefed all evolution participants of identified hazards, risk controls, residual risks, risk control supervision, and individual responsibilities effectively.	25		
9	Briefed "what's different today" hazards and controls effectively.	10		
10	Explained how and when participants should communicate new hazards and recommend additional controls during the evolution.	5		
Execution				
11	Communicated changes to the briefed plan during execution effectively.	10		
12	Assessed new hazards during execution for error potential, Balanced resources, Communicated risks and intentions, and took actions and monitored (Do & Debriefed) effectively.	20		
13	Made risk decisions to Balance resources and took actions (Do) for new hazards during execution at the appropriate level.	10		
14	Completed the specified and implied tasks of the evolution successfully.	5		
Debriefing				
15	Participants from every functional area necessary to conduct the evolution attended the debrief.	10		
16	Debriefed the specified and implied tasks successes and failures effectively.	10		
17	Identified the root causes of the conditions that led to failures in the debrief.	20		
18	Identified and recorded actionable solutions to prevent future failures for this evolution.	20		
Lessons Learned / Best Practices				
19	Retained ORM risk assessments, lessons learned, and/or best practices for this evolution in a centralized, readily accessible location at the unit/group.	10		
20	Shared ORM risk assessments, lessons learned, and/or best practices for this evolution with relevant external unit(s)/group(s).	10		
Maximum Possible ⇨				⇨ Evolution Score
Additional Comments, Lessons Learned, or Best Practices continued on reverse ⇨				



Debriefing the Evolution

- Real-time feedback is much more powerful than time-late feedback... give feedback as you go, even though you won't have the grade sheet completed yet
- Need to debrief the evolution planner/briefer on what you observed by **highlighting/emphasizing** things that:
 - May be important to the CO
 - May be important to participants
 - May be a best practice or lesson learned
 - Any recommendation for how to improve
- Unit feedback from planners & participants is desired... will help improve ORM



Assessing Evolution ORM

- Read Reference Guide first on how to fill out sheet
 - Includes section on ORM terminology
- Bring Evolution ORM Assessment Sheet to event
 - Use as a guide for identifying ORM tasks
 - Take notes either separately or on the back during the evolution
- Fill out the top of the sheet as best you can:
 - Unit/Group name and designation (e.g., LHA-4,

VFA-154)

Evolution ORM Assessment Sheet

Unit/Group: **USS NASSAU (LHA-4)** Assessor: **NSC**
Evolution: **Getting U/W, NAV Dept.** Date/Time: **05 Feb 07, 0900L**

- Evolution name and entity in charge of planning/execution
- Date/Time of evolution **execution**



Marking Task Grades

- Keep the Reference Guide handy
- Use your notes to help assign grades
- When evolution complete, assign a grade (5-25 pts.) based on “Max.” allowable & criteria defined in Reference Guide
- If task not observed or applicable, write “**NOB**”

	Planning	Max.	Pts.	Comments
1	Identified and incorporated lessons learned, best practices, ORM risk assessments or other data from previous or similar evolutions during planning.	X	NOB	
2	Involved operators from every functional area necessary to conduct the evolution in planning.	10		8 5 of 6 areas: no CS Dept.
3	Conducted and documented a Deliberate or In-Depth ORM risk assessment during planning.	10		6 Poor documentation (over →)

- For additional comments, lessons learned, or best practices, write on back of sheet with task number



Evolution Scores

- After grading, add up all the graded tasks “Max.” and “Pts.” totals (i.e., not NA/NOB) and fill in “Maximum Possible” and “Evolution Score” blocks at bottom of page
 - N/A or NOB tasks do not help or hurt the Evolution score
 - If all tasks are graded, the Maximum Possible score

Lessons Learned / Best Practices			
19	Retained ORM risk assessments, lessons learned, and/or best practices for this evolution in a centralized, readily accessible location at the unit/group.	10	7
20	Shared ORM risk assessments, lessons learned, and/or best practices for this evolution with relevant external	10	9
Maximum Possible ⇒		230	197
		⇐ Evolution Score	
Additional Comments, Lessons Learned, or Best Practices continued on reverse →			



Single Measure Task

Planning		Max.	Pts.	Grading Criteria
1	Identified and incorporated lessons learned, best practices, ORM risk assessments or other data from previous or similar evolutions during planning.	10	10 pts.	Lessons learned, best practices, ORM risk assessments (required for new or complex evolutions), and/or other experiential data (e.g., mishap, hazard) identified & incorporated.
2	Involved operators from every functional area necessary to conduct the evolution in planning.	10	1 pt.	For each 10% of total functional areas represented, rounded to the nearest 10% (e.g., 75% = 8 pts.).

• When planning for getting U/W, NAV dept. did not use lessons learned, best practices, or previous risk assessments (new ANAV)

• NAV, ENG, REA, OPS, AIR, WEPS, DECK depts. were involved in planning but not C5I dept. (i.e., 7 of 8 involved ~ 87.5%)

Planning		Max.	Pts.	Grading Criteria
1	Identified and incorporated lessons learned, best practices, ORM risk assessments or other data from previous or similar evolutions during planning.	10	0	No lessons learned, best practices, or risk assessments used during planning (new ANAV)
2	Involved operators from every functional area necessary to conduct the evolution in planning.	10	9	Missing C5I dept. during planning (didn't coordinate maint. w/U/W)



Multiple Measure Task

Planning		Max.	Pts.	Grading Criteria
4	Conducted an operational analysis, identified hazard root causes and assessed for risk, devised controls, and prioritized resources based on residual risk.	25	5 pts. 5 pts. 5 pts. 5 pts. 5 pts.	Determined the specified & implied tasks and divided evolution into manageable segments/steps by either time sequence or functional area. Identified hazard root causes during each segment/step vice symptoms for "why" behind a condition (e.g., "lack of adequate rest" vice "fatigue"). Assessed each hazard for risk in terms of both probability and severity. Determined risk controls for each hazard. Prioritized resources and altered plans based on residual risk levels of identified hazards.

Planning		Max.	Pts.	Grading Criteria
4	Conducted an operational analysis, identified hazard root causes and assessed for risk, devised controls, and prioritized resources based on residual risk.	25	4 3 5 4 1	Determined specified but not implied tasks; broke up into steps by time sequence ID'd hazards but 4 of 8 were symptoms vice root causes Did assess hazards for risk (prob. & severity) Risk controls were assigned for each ID'd hazard but two cancel effects of each other Did not determine residual risks but some more controls put in place for higher risks



When Finished Scoring

- Fill out and turn in Evolution ORM Assessment Sheets to ORM Team Leader
 - NSC or assessment command representative
- Data will be collated by ORM Team Leader into the Overall ORM Assessment for unit/group commander
- At some later date, NSC will send out an electronic questionnaire asking for your input on the ORM Assessment process
- Your feedback along with unit/group commander feedback will refine process...
no input, don't complain



ORM Application Assessment Results

Overall ORM Application Assessment – ORM Team Leader

- Evolution data collated into overall ORM Application spreadsheet
- Shows task avgs. vs. class, fleet and desired scores plus overall ORM Proficiency Level (i.e., O1-O4, %, and level descriptor)



ORM Application Assessment
Summarizes Amphibious Assault Ship Tailored Ship's Training Availability II/III



Planning		Max.	Pts.	Class	Fleet	Comments
1	Identified and incorporated lessons learned, best practices, ORM risk assessments or other data from previous planning evolutions during planning.	10	5.692	TBD	7.221	Not proficient
2	Involved operators from every functional area necessary to conduct the evolution in planning.	10	8.3	TBD	8.983	Proficient
3	Conducted and documented a Deliberate or In-Depth ORM risk assessment during planning.	10	4.5	TBD	6.65	Not proficient
20	Shared ORM risk assessments, lessons learned, and/or best practices for this evolution with relevant external	10	9.5	TBD	TBD	Exceptional
Maximum Possible ⇒		250	199	⇒ Overall Score		
ORM Proficiency Level ⇒		O3	79.6%	Needs improvement		



ORM Proficiency Levels

O1 is $\geq 90\%$, "Exceptional"

Maximum Possible \Rightarrow	240	229.8	\Leftarrow Overall Score
ORM Proficiency Level \Rightarrow	O1	95.8%	Exceptional

O2 is 80-89.9%, "Proficient"

Maximum Possible \Rightarrow	240	208	\Leftarrow Overall Score
ORM Proficiency Level \Rightarrow	O2	86.7%	Proficient

O3 is 70-79.9%, "Needs improvement"

Maximum Possible \Rightarrow	240	181.4	\Leftarrow Overall Score
ORM Proficiency Level \Rightarrow	O3	75.6%	Needs improvement

O4 is $< 70\%$, "Not proficient"

Maximum Possible \Rightarrow	240	167	\Leftarrow Overall Score
ORM Proficiency Level \Rightarrow	O4	69.6%	Not proficient



ORM Application Assessment

Initial Findings



What have we learned so far:

- Biggest barrier ⇒ Fleet perception that ORM is a burden or extra task... overcome w/ training, demonstration & feedback
- Second biggest barrier ⇒ initial assessor buy-in... overcome w/ training, demonstration & feedback
- Third biggest barrier ⇒ organizational communication... still working on (e.g., e-mails, phonecons, VTCs, msg traffic, conf.)
- Fleet does risk management but in non-standard ways
- There has only been one exemplar unit (NSAWC), however, we have seen exemplar command components that “get it” (e.g., unit departments, warfare commanders, etc.)
- Data suggests a correlation between ORM use in planning / briefing and execution of the event
 - Better ORM use leads to better execution; worse leads to worse

~~Not enough data to establish trends but interesting so far~~



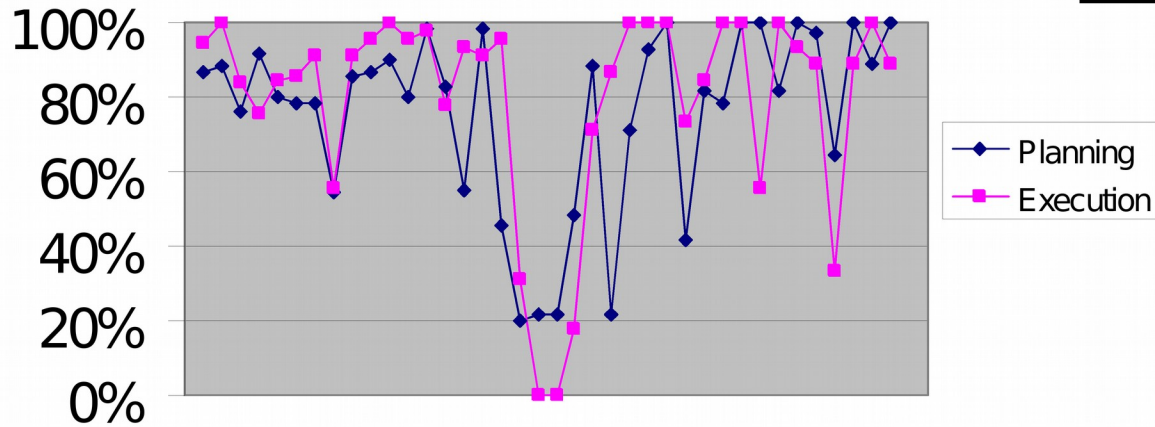
ORM Application Assessment

Preliminary Data



- Tasks during planning vs. execution (strong correlation):
 - High scores ($\geq 85\%$) translated to high “Execution” scores (avg. 91%)
 - Lower scores ($< 85\%$) translated to lower “Execution” scores (avg. 66%)
- Tasks during briefing vs. execution (positive correlation):
 - High scores ($\geq 85\%$) translated to high “Execution” scores (avg. 90%)
 - Lower scores ($< 85\%$) translated to lower “Execution” scores (avg. 73%)
- Use of Deliberate/In-Depth or Functional ORM process vs. execution (strong correlation for both):
 - High scores ($\geq 85\%$) translated to high “Execution” scores (avg. 85% deliberate/in-depth and 90% functional)
 - Lower scores ($< 85\%$) translated to lower “Execution” scores (avg. 69% deliberate/in-depth and 70% functional)
- **Use of ORM processes during planning & briefing led to 16-25% better execution scores**

Planning vs. Execution

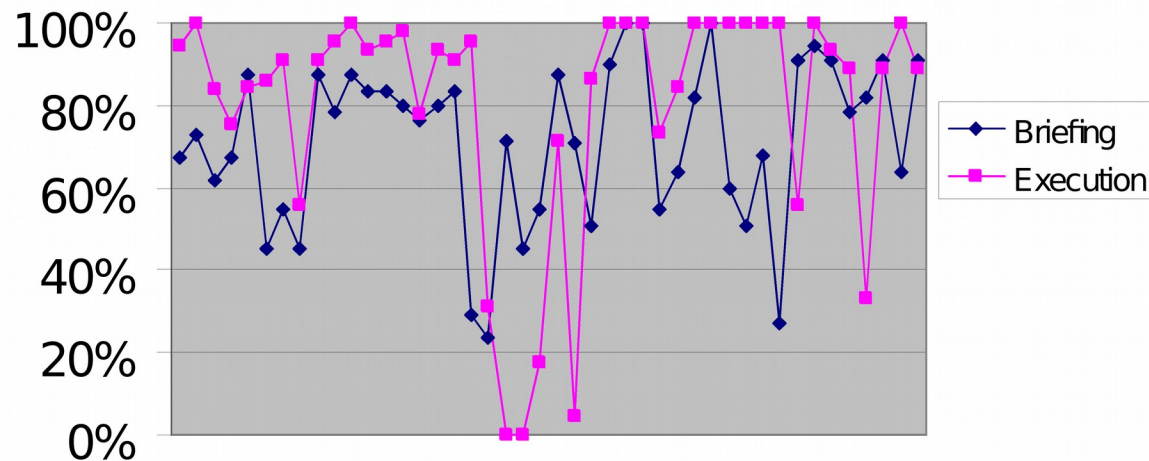


Evolution Observed

Statistical Significance

<.1% chance
Planning scores
and Execution
scores are not
related

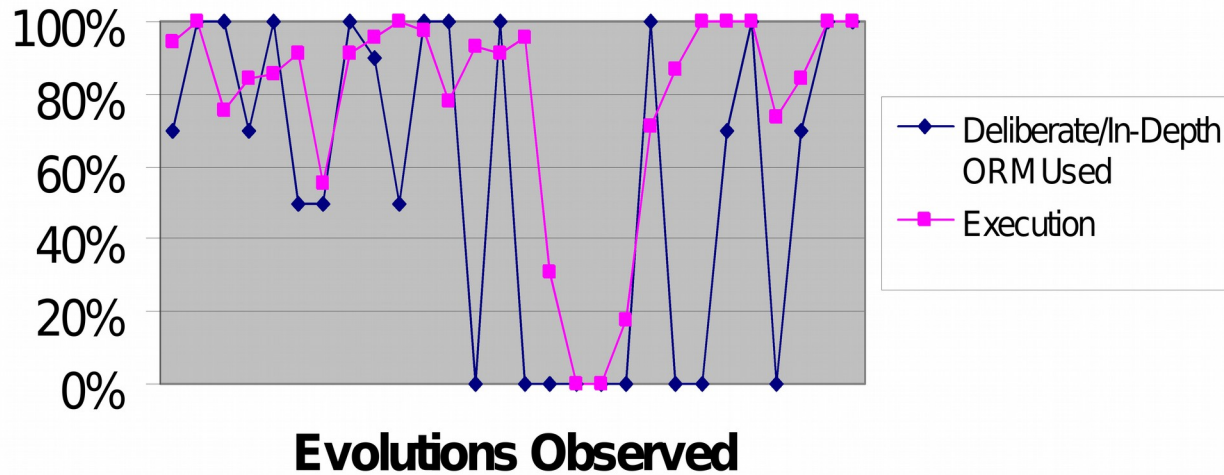
Briefing vs. Execution



Evolution Observed

<10% chance
Briefing scores
and Execution
scores are not
related

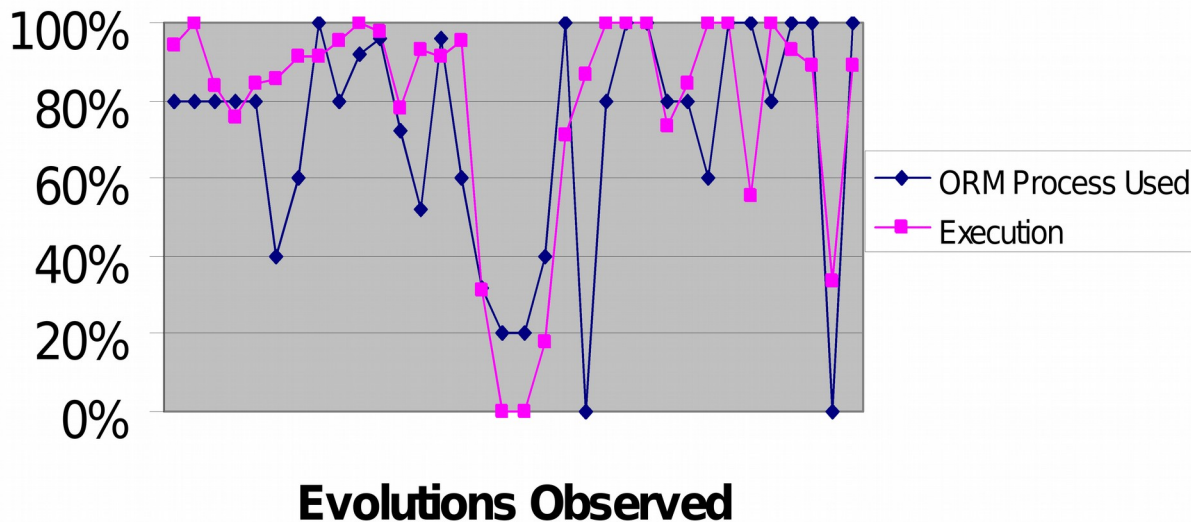
Deliberate/In-Depth ORM Used vs. Execution



Statistical Significance

<1% chance
Deliberate/In-Depth ORM
scores and
Execution scores
are not related

Functionally ORM Used vs. Execution



<.1% chance
Functional ORM
scores and
Execution scores
are not related



ORM Application Assessment
Overall Fleet Averages & Proficiency Levels
Observations as of 23 May 07



Planning		Max.	Pts.	Class	Fleet	Comments
1	Identified and incorporated lessons learned, best practices, ORM risk assessments or other data from previous or similar evolutions during planning.	10	8.028	TBD	8.028	Proficient
2	Involved operators from every functional area necessary to conduct the evolution in planning.	10	9.567	TBD	9.567	Exceptional
3	Conducted and documented a Deliberate or In-Depth ORM risk assessment during planning.	10	4.723	TBD	4.723	Not proficient
4	Conducted an operational analysis, identified hazard root causes and assessed for risk, devised controls, and prioritized resources based on residual risk.	25	17.19	TBD	17.19	Not proficient
5	Weighed risks for benefits vs. costs, made risk decisions at the appropriate level, and accepted no unnecessary risks.	15	10.74	TBD	10.74	Needs improvement
Briefing						
6	Participants from every functional area necessary to conduct the evolution attended the brief.	10	9.405	TBD	9.405	Exceptional
7	Briefed the specified and implied tasks of the evolution effectively.	5	4.36	TBD	4.36	Proficient
8	Briefed all evolution participants of identified hazards, risk controls, residual risks, risk control supervision, and individual responsibilities effectively.	25	16.86	TBD	16.86	Not proficient
9	Briefed "what's different today" hazards and controls effectively.	10	5.812	TBD	5.812	Not proficient
10	Explained how and when participants should communicate new hazards and recommend additional controls during the evolution.	5	3.122	TBD	3.122	Not proficient
Execution						
11	Communicated changes to the briefed plan during execution effectively.	10	6.835	TBD	6.835	Not proficient
12	Assessed new hazards during execution for error potential, Balanced resources, Communicated risks and intentions, and took actions and monitored (Do & Debriefed) effectively.	20	13.18	TBD	13.18	Not proficient
13	Made risk decisions to Balance resources and took actions (Do) for new hazards during execution at the appropriate level.	10	7.597	TBD	7.597	Needs improvement
14	Completed the specified and implied tasks of the evolution successfully.	5	4.216	TBD	4.216	Proficient
Debriefing						
15	Participants from every functional area necessary to conduct the evolution attended the debrief.	10	9.017	TBD	9.017	Exceptional
16	Debriefed the specified and implied tasks successes and failures effectively.	10	9.153	TBD	9.153	Exceptional
17	Identified the root causes of the conditions that led to failures in the debrief.	20	14.11	TBD	14.11	Needs improvement
18	Identified and recorded actionable solutions to prevent future failures for this evolution.	20	13.07	TBD	13.07	Not proficient
Lessons Learned / Best Practices						
19	Retained ORM risk assessments, lessons learned, and/or best practices for this evolution in a centralized, readily accessible location at the unit/group.	10	6.407	TBD	6.407	Not proficient
20	Shared ORM risk assessments, lessons learned, and/or best practices for this evolution with relevant external unit(s)/group(s).	10	5.158	TBD	5.158	Not proficient
Maximum Possible ⇒		250	178.6	⇐ Overall Score		
ORM Proficiency Level ⇒		O3	71.4%	Needs improvement		

Fleet Observations to Date

Still have plenty of room for improvement based on observations so far

Needs improvement



Weakest Areas Observed So Far

Planning

3	Conducted and documented a Deliberate or In Depth ORM risk assessment during planning.	10	4.723
4	Conducted an operational analysis, identified hazard root causes and assessed for risk, devised controls, and prioritized resources based on residual risk.	25	17.19

Briefing

8	Briefed all evolution participants of identified hazards, risk controls, residual risks, risk control supervision, and individual responsibilities effectively.	25	16.86
9	Briefed "what's different today" hazards and controls effectively.	10	5.812
10	Explained how and when participants should communicate new hazards and recommend additional controls during the evolution.	5	3.122



Weakest Areas Observed So Far (contd.)

Execution

11	Communicated changes to the briefed plan during execution effectively.	10	6.835
12	Assessed new hazards during execution for error potential, B alanced resources, Communicated risks and intentions, and took actions and monitored (D o & Debriefed)	20	13.18

Debriefing

18	Identified and recorded actionable solutions to prevent future failures for	20	13.07
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Lessons Learned/Best Practices

19	Retained ORM risk assessments, lessons learned, and/or best practices for this evolution in a centralized, readily accessible location at the unit/group.	10	6.407
20	Shared ORM risk assessments, lessons learned, and/or best practices for this evolution with relevant external	10	5.158



ORM Application Assessment

Initial Feedback



Unit commander feedback:

- Not intrusive / seamless
- Assessors were completely helpful & beneficial
- Complementary to the assessment command evaluation
- Need to assess both the unit and group-level ORM processes separately
- “White hat” philosophy lost w/ “black hat” assessors
- “White hat” approach has several advantages
- Should be tied to a unit’s training cycle
- Recommend another 4-5 day look during second month of cruise

Assessor feedback:

- Should be “black hat” – added to inspection (e.g., TORIS/TFOM)
- Entire process was “value added” – complemented evaluation
- Need objective criteria for specific events – **In work**
- Define terminal and enabling objectives in training – **Complete**
- Dedicated instructor-led training – **Complete & available on web site; starting periodic Fleet assessor training (Summer '07)**



Summary

- ORM: three levels, four principles, and five steps
- Four steps of Time Critical ORM:
ABCD
- Several ORM terms to understand
- ORM assessment types and overall process
- Be able to recognize ORM application during the various phases of an evolution
- Be able to fill out an Evolution ORM Assessment Sheet for a complex evolution



Questions ?



ORM Assessment

Way Ahead



Short Term:

- Continue to partner w/ Fleet assessment commands during ORM Application Assessments until self-sustaining
- Analyze & disseminate ORM Application Assessment trends Fleet-wide (Fall '07)
- West Coast
 - ABE TSTA/FEP (July '07); TAR ESGINT (Aug '07); CVW-2 Fallon det (Sep '07)
 - ABE CSG C2X (Oct-Nov '07); TAR ESG C2X (Sep '07)
 - ABE CSG JTFEX (Jan '08); TAR ESG JTFEX (Oct '07)
- Begin periodic assessor training (Summer '07)
- Integrate ORM Program Assessments into Safety Surveys, regional IG inspections, & ISIC inspections (Summer '07)



ORM Assessment

Way Ahead



Long Term:

- TYCOMs refine who/what/when regarding ORM Application & Program Assessments
- Sustainment: Need to fully integrate ORM assessments into existing unit/activity/group evaluations
 - SURFOR units: TORIS/TFOM (next release Oct '07)
 - SUBFOR units: STATS (goal - Fall '07), ISIC inspections
 - AIRFOR units: CV SHARP (next release), NSAWC/Wpn Schools, ISIC inspections
 - SPECWAR units: NSWG-2
 - Groups: SFT & TTG NMETs (SFTL C2X trials July '07; goal - fully integrated Oct '07)
- NSC continue to analyze Fleet trends & measure ROI
- Draft CNAF & CNSF ORM Assessment Models



Planning Tasks

Planning		Max.	Pts.	Grading Criteria
1	Identified and incorporated lessons learned, best practices, ORM risk assessments or other data from previous or similar evolutions during planning.	10	10 pts.	Lessons learned, best practices, ORM risk assessments (required for new or complex evolutions), and/or other experiential data (e.g., mishap, hazard) identified & incorporated.
2	Involved operators from every functional area necessary to conduct the evolution in planning.	10	1 pt.	For each 10% of total functional areas represented, rounded to the nearest 10% (e.g., 75% = 8 pts.).
3	Conducted and documented a Deliberate or In-Depth ORM risk assessment during planning.	10	5 pts. 5 pts.	Conducted Deliberate or In-Depth risk assessment. Documented and recorded risk assessment in usable format for future planners.
4	Conducted an operational analysis, identified hazard root causes and assessed for risk, devised controls, and prioritized resources based on residual risk.		5 pts. 5 pts. 5 pts. 5 pts. 5 pts.	Determined the specified & implied tasks and divided evolution into manageable segments/steps by either time sequence or functional area. Identified hazard root causes during each segment/step vice symptoms for "why" behind a condition (e.g., "lack of adequate rest" vice "fatigue"). Assessed each hazard for risk in terms of both probability and severity. Determined risk controls for each hazard. Prioritized resources and altered plans based on residual risk levels of identified hazards.



Briefing Tasks

Briefing		Max.	Pts.	Grading Criteria
6	Participants from every functional area necessary to conduct the evolution attended the brief.	10	1 pt.	For each 10% of total functional areas represented, rounded to the nearest 10% (e.g., 75% = 8 pts.).
7	Briefed the specified and implied tasks of the evolution effectively.	5	5 pts.	Briefed all specified and implied tasks for the evolution.
8	Briefed all evolution participants of identified hazards, risk controls, residual risks, risk control supervision, and individual responsibilities effectively.	25	5 pts. 5 pts. 5 pts. 5 pts. 5 pts.	Briefed identified hazards to all participants. Briefed risk controls to all participants. Briefed residual risks to all participants. Briefed risk control supervision responsibilities to all applicable participants. Briefed individual responsibilities to all participants.
9	Briefed "what's different today" hazards and controls effectively.	10	5 pts. 5 pts.	Briefed "what's different today" hazards. Briefed risk controls to mitigate those hazards.
10	Explained how and when participants should communicate new hazards and recommend additional controls during the evolution.	5	5 pts.	Explained who/how/when should communicate new hazards and recommend implementing additional controls during the evolution.



Execution Tasks

Execution		Ma x.	Pts.	Grading Criteria
11	Communicated changes to the briefed plan during execution effectively.	10	1 pt.	For every 10% of changes to the plan communicated, received, and interpreted as sent, rounded to nearest 10% (i.e., 75% = 8 pts.).
12	Assessed new hazards during execution for error potential, Balanced resources, Communicated risks and intentions, and took actions and monitored (Do & Debriefed) effectively.	20	5 pts. 5 pts. 5 pts. 5 pts.	Identified all new hazards with potential for error. Allocated resources to deal with new hazards. Communicated risks and intentions for resources. Took actions to mitigate new hazard risks and directed specific participants to monitor the new hazards for change.
13	Made risk decisions to Balance resources and took actions (Do) for new hazards during execution at the appropriate level.	10	5 pts. 5 pts.	New hazard risks were communicated to cognizant authority with responsibility for combat decisions. Resources were allocated and actions taken to mitigate the new hazard risks by cognizant authority.
14	Completed the specified and implied tasks of the evolution successfully.	5	5 pts.	Completed the specified and implied tasks of the evolution without any consequential errors.



Debriefing Tasks

Debriefing		Max	Pts.	Grading Criteria
1 5	Participants from every functional area necessary to conduct the evolution attended the debrief.	10	1 pt.	For every 10% of functional areas represented, rounded to the nearest 10% (e.g., 75% = 8 pts.).
1 6	Debriefed the specified and implied tasks successes and failures effectively.	10	5 pts. 5 pts.	Debriefed all specified & implied task successes. Debriefed all specified & implied task failures.
1 7	Identified the root causes of the conditions that led to failures in the debrief.	20	1 pt. 1 pt.	For every 10% of execution failures identified, rounded to nearest 10% (e.g., 75% = 8 pts.). For every 10% of condition root causes that led to failure determined (the "why" behind each failure), rounded to the nearest 10% (e.g., 75% = 8 pts.).
1 8	Identified and recorded actionable solutions to prevent future failures for this evolution.	20	1 pt. 1 pt.	For every 10% of actionable solutions to prevent future failures identified, rounded to nearest 10% (e.g., 75% = 8 pts.). For every 10% of actionable solutions to prevent future failures recorded, rounded to nearest 10% (e.g., 75% = 8 pts.).



Lessons Learned/Best Practices Tasks



Lessons Learned / Best Practices		Max	Pts.	Grading Criteria
19	Retained ORM risk assessments, lessons learned, and/or best practices for this evolution in a centralized, readily accessible location at the unit/group.	10	5 pts. 5 pts.	ORM risk assessments, lessons learned or best practices retained for this evolution at the unit. Repository for storage is centralized and readily accessible to future planners for this evolution.
20	Shared ORM risk assessments, lessons learned, and/or best practices for this evolution with relevant external unit(s)/group(s).	10	10 pts.	ORM risk assessments, lessons learned or best practices transmitted via TRACS, message traffic, Safety Center website, or other feedback mechanism to all other relevant external units.